

Delsther James Edralin

4th Year in Computer Science
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UBC Science Co-op 

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Education

Bachelor of Computer Science — University of British Columbia | Vancouver, CA Sep 2022 - May 2025

Bachelor of Science in Architecture — De La Salle-College of Saint Benilde | Manila, PH Aug 2015 - May 2020

Technical Projects

Portfolio Blog — Next.js | React | Typescript | Node.js | REST API [\[source\]](#) [\[website link\]](#)

- Developed to showcase software, graphics, and design projects with details into technical processes in blog posts
- Integrated **GitHub REST API** to retrieve data in repositories and **Nodemailer** to foster seamless mail sending

3D Paddle Play Game — Unity | C# | Cg [\[source\]](#) [\[demo build\]](#)

- Developed a Pong clone in Unity to sharpen ideation and technical skills throughout the game development process
- Enhanced game's visual appeal with color intensity shaders using **URP shader graphs** and reactive particle systems
- Applied advanced camera effects utilizing jostling and spring algorithms, ensuring immersive player experience

Book Marker Desktop App — Java | JUnit | JSON | JSwing [\[source\]](#)

- Created a desktop application for managing a personal library capable of handling **hundreds of books** efficiently
- Designed a user-friendly interface and incorporated a responsive search feature for intuitive book tracking
- Integrated optimized data persistence and event-logging functionality using JSON objects

Quadtree Pruning System — C++ | ImageMagick [\[source\]](#)

- Implemented an image compression algorithm by using color quantization to optimize loading times on applications
- Achieved high image processing efficiency by reducing file sizes within **19% - 84%** across multiple tested images

Visualization and Simulation Projects

Organic Fractal Simulation — Unity | C# | Cg | HLSL [\[source\]](#) [\[demo build\]](#)

- Simulated a **procedural generated**, depth-based colored, 3D "organic" Sierpinski Pyramid made in Unity URP
- Integrated job system for multithreading and **compute shaders** to animate 390,625 objects at consistent frame rates
- Addressed challenges in creating organic structures through pseudo-random algorithms such as Weyl's sequencing

Parametric Surfaces App — Unity | C# | Cg | HLSL [\[source\]](#) [\[demo build\]](#)

- Animated **11** mathematical surfaces with spatial-based coloring surface shader via shader graph and HLSL
- Overcame challenges in rendering up to **a million animated objects** with at least 60 FPS by using compute shaders

Work Experience

Architectural Technologist — D&J Builders and Power Systems Corporation May 2020 - Aug 2022

- Created precise technical drawings in CAD software for industrial, medical, and government administrative facilities
 - Efficiently coordinated construction projects with engineers and 20+ workers in weekly meetings through site visits
- Technologies and CAD Software: Autodesk (AutoCAD & 3ds Max) | SketchUp | Lumion | Adobe Photoshop | Office

Technical Skills

Languages: Python · C# · C++ · C · Cg/ShaderLab · HLSL · Java · JavaScript · HTML · CSS · MySQL
Frameworks & Libraries: JSwing · Node.js · React · Next.js · Tailwind · RESTful API · GraphQL
Developer Tools: Git · IntelliJ · VSCode · Visual Studio · Unity · Shader Graph **Debugging:** JUnit · Valgrind